

Listing of Claims:

Claims 1-19 (Canceled)

20. (Previously Presented) A method for communicating with a large number of remote satellite locations comprising simultaneously in random access mode communicating with a plurality of a first set of remote terminal devices and communicating with a plurality of second remote terminal devices in a dedicated mode using the same overlapping channels wherein a hub site determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein said hub site calculates a load for each of said first and second remote terminal devices and retains said loads in memory, and wherein said hub site correlates said loads for each of said first and second remote terminal devices with a last time slot in which a burst was last received from each of said first and second remote terminal devices, and maintains said correlated loads in an allocation table.

21. (Previously Presented) A method for communicating with a large number of remote satellite locations as recited in claim 20, wherein said hub site transmits changes to said allocation table to said first and second remote terminal devices.

22. (Previously Presented) A method for communicating with a large number of remote satellite locations as recited in claim 20, wherein said hub site updates said allocation table every inbound frame.

Claim 23 (Canceled)

24. (Previously Presented) A method for communicating with a large number of remote satellite locations comprising simultaneously in random access mode communicating with a plurality of a first set of remote terminal devices and communicating with a plurality of second remote terminal devices in a dedicated mode using the same overlapping channels, wherein collisions between inbound packets from different ones of said first and second remote terminal devices are prevented by allocating one of frequency, time slot, and frequency and time slot to said ones of said first and second remote terminal devices that generate the most inbound traffic, wherein when there are more active ones of said first and second remote terminal devices than there are channels, each of said first and second remote terminal device is allocated a mini-slot, and wherein said first and second remote terminal devices have a multi-slot counter, said mini-slot counter in each of said first and second remote terminal devices being synchronized with said hub site and each of said first and second remote terminal devices.

25. (Previously Presented) A method for communicating with a large number of remote satellite locations comprising simultaneously in random access mode communicating with a plurality of a first set of remote terminal devices and communicating with a plurality of second remote terminal devices in a dedicated mode using the same overlapping channels wherein a hub site determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein said hub site calculates a load for each of said first and second remote terminal

devices and retains said loads in memory, and wherein said load for each of said first and second remote terminal device (L_{new}) is calculated according to the following formula:

$$L_{new} = L_{old} (1 - \tau)^n + \tau ,$$

where τ is a configurable constant, n is the number of time-slots since a last time-slot on which a packet was received from a remote terminal device, and L_{old} is the previous load value of the remote terminal device.

26. (Previously Presented) A method for communicating with a large number of remote satellite locations comprising simultaneously in random access mode communicating with a plurality of a first set of remote terminal devices and communicating with a plurality of second remote terminal devices in a dedicated mode using the same overlapping channels wherein a hub site determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein said hub site calculates a load for each of said first and second remote terminal devices and retains said loads in memory, and wherein said load (L_{new}) for each of said first and second remote terminal device is calculated according to the following formula:

$$L_{new} = L_{old} * M * (1 - 1/N)^n + M/N$$

where M is a normalizing constant M , N is a time constant, which is the number of time-slots in T seconds (where T is a configuration parameter), τ is $1/N$, n is the

number of time-slots since a last time-slot on which a packet was received from a remote terminal device, and L_{old} is the previous load value of the remote terminal device.

27. (Original) A method for communicating with a large number of remote satellite locations as recited in claim 20, wherein said allocation table comprises information relating to a number of frequencies a remote terminal device is capable of utilizing, a number of mini-slots said remote terminal device may receive, a total number and identification of free inbound ones of said channels and mini-slots, a minimum and assigned maximum load value allocated to each of said first and second remote terminal device, current inbound resources allocated to each of said plurality of first and second remote terminal devices, whether said remote terminal device may become an active site, and whether said remote terminal device has any weighting factors associated with its load calculations.

28. (Original) A method for communicating with a large number of remote satellite locations as recited in claim 20, wherein said allocation table comprises a list of all remote sites from which a packet was received during a last measure increment.

29. (Original) A method for communicating with a large number of remote satellite locations as recited in claim 28, wherein said measure increment is one of a multi-slot time period and window.

Claims 30-45 (Canceled)

46. (Previously Presented) A system for communicating with a large number of remote satellite locations comprising:

a plurality of a first set of remote terminal devices;

a plurality of second remote terminal devices operating in a dedicated mode using the same overlapping channels; and

a hub site which determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein when said one of said plurality of second remote terminal devices has been sufficiently active during a sliding window, said one of said plurality of second remote terminal devices directly accesses said channels, wherein collisions between inbound packets from different ones of said first and second remote terminal devices are prevented by allocating one of frequency, time slot, and frequency and time slot to said ones of said first and second remote terminal devices that generate the most inbound traffic, wherein when there are more active ones of said first and second remote terminal devices than there are channels, each of said first and second remote terminal device is allocated a mini-slot, wherein said hub site calculates a load for each of said first and second remote terminal devices and retains said loads in memory, and wherein said hub site correlates said loads for each of said first and second remote terminal devices with a last time slot in which a burst was last received from each of said first and second remote terminal devices, and maintains said correlated loads in an allocation table.

47. (Previously Presented) A system for communicating with a large number of remote satellite locations as recited in claim 46, wherein said hub site transmits changes to said allocation table to said first and second remote terminal devices.

48. (Original) A system for communicating with a large number of remote satellite locations as recited in claim 46, wherein said hub site updates said allocation table every inbound frame.

Claim 49 (Canceled)

50. (Previously Presented) A system for communicating with a large number of remote satellite locations comprising:

a plurality of a first set of remote terminal devices;

a plurality of second remote terminal devices operating in a dedicated mode using the same overlapping channels; and

a hub site which determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein when said one of said plurality of second remote terminal devices has been sufficiently active during a sliding window, said one of said plurality of second remote terminal devices directly accesses said channels, wherein collisions between inbound packets from different ones of said first and second remote terminal devices are prevented by allocating one of frequency, time slot, and frequency and time slot to said ones of said first and second remote terminal devices that generate the most inbound traffic, wherein when there are more

active ones of said first and second remote terminal devices than there are channels, each of said first and second remote terminal device is allocated a mini-slot, and wherein said first and second remote terminal devices comprise a multi-slot counter, said mini-slot counter in each of said first and second remote terminal devices being synchronized with said hub site and each of said first and second remote terminal devices.

51. (Previously Presented) A system for communicating with a large number of remote satellite locations comprising:

a plurality of a first set of remote terminal devices;

a plurality of second remote terminal devices operating in a dedicated mode using the same overlapping channels; and

a hub site which determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein when said one of said plurality of second remote terminal devices has been sufficiently active during a sliding window, said one of said plurality of second remote terminal devices directly accesses said channels, wherein collisions between inbound packets from different ones of said first and second remote terminal devices are prevented by allocating one of frequency, time slot, and frequency and time slot to said ones of said first and second remote terminal devices that generate the most inbound traffic, wherein when there are more active ones of said first and second remote terminal devices than there are channels, each of said first and second remote terminal device is allocated a mini-slot, wherein said hub site calculates a load for each of said first and second remote terminal devices and retains

said loads in memory, and wherein said load (L_{new}) for each of said first and second remote terminal device is calculated according to the following formula:

$$L_{new} = L_{old} (1 - \tau)^n + \tau ,$$

where τ is a configurable constant, n is the number of time-slots since a last time-slot on which a packet was received from a remote terminal device, and L_{old} is the previous load value of the remote terminal device.

52. (Previously Presented) A system for communicating with a large number of remote satellite locations comprising:

a plurality of a first set of remote terminal devices;

a plurality of second remote terminal devices operating in a dedicated mode using the same overlapping channels; and

a hub site which determines threshold criteria for determining when said remote terminal devices are active, and allocates said channels, wherein when said one of said plurality of second remote terminal devices has been sufficiently active during a sliding window, said one of said plurality of second remote terminal devices directly accesses said channels, wherein collisions between inbound packets from different ones of said first and second remote terminal devices are prevented by allocating one of frequency, time slot, and frequency and time slot to said ones of said first and second remote terminal devices that generate the most inbound traffic, wherein when there are more

active ones of said first and second remote terminal devices than there are channels, each of said first and second remote terminal device is allocated a mini-slot, wherein said hub site calculates a load for each of said first and second remote terminal devices and retains said loads in memory, and wherein said load (L_{new}) for each of said first and second remote terminal device is calculated according to the following formula:

$$L_{new} = L_{old} * M * (1 - 1/N)^n + M/N$$

where M is a normalizing constant M, N is a time constant, which is the number of time-slots in T seconds (where T is a configuration parameter), τ is $1/N$, n is the number of time-slots since a last time-slot on which a packet was received from a remote terminal device, and L_{old} is the previous load value of the remote terminal device.

53. (Original) A system for communicating with a large number of remote satellite locations as recited in claim 46, wherein said allocation table comprises information relating to a number of frequencies a remote terminal device is capable of utilizing, a number of mini-slots said remote terminal device may receive, a total number and identification of free inbound ones of said channels and mini-slots, a minimum and assigned maximum load value allocated to each of said first and second remote terminal device, current inbound resources allocated to each of said plurality of first and second remote terminal devices, whether said remote terminal device may become an active site, and whether said remote terminal device has any weighting factors associated with its load calculations.

54. (Original) A system for communicating with a large number of remote satellite locations as recited in claim 46, wherein said allocation table comprises a list of all remote sites from which a packet was received during a last measure increment.

55. (Original) A system for communicating with a large number of remote satellite locations as recited in claim 54, wherein said measure increment is one of a multi-slot time period and window.

Claims 56- 59 (Canceled)